S352U2RER
S352U2RERC

Instruction Manual

Dual SATA External Hard Drive Enclosure

3.5" eSATA/USB Dual Removable SATA RAID External Hard Drive Enclosure

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Use of Trademarks, Registered Trademarks, and other Protected Names and Symbols

This manual may make reference to trademarks, registered trademarks, and other protected names and/or symbols of third-party companies not related in any way to StarTech.com. Where they occur these references are for illustrative purposes only and do not represent an endorsement of a product or service by StarTech.com, or an endorsement of the product(s) to which this manual applies by the third-party company in question. Regardless of any direct acknowledgement elsewhere in the body of this document, StarTech.com hereby acknowledges that all trademarks, registered trademarks, service marks, and other protected names and/or symbols contained in this manual and related documents are the property of their respective holders.

Table of Contents

Introduction 1
Packaging Contents 1
System Requirements 1

Installation 2
Hardware Installation 3
eSATA Controller Card Installation (S352U2RERC only) 4
Driver Installation 5
Verifying Installation 5
SteelVine Manager Installation 6

Configuration 7
Mode Selection 7
SteelVine Manager Operation 8

RAID Storage Policies 9
GUI MODE (factory default) 9
JBOD MODE 9
BIG MODE 10
RAID 1 (Safe) 12
RAID / SAFE33 13
RAID / SAFE50 14

Specifications 15

Technical Support 16

Warranty Information 16

Introduction

Packaging Contents

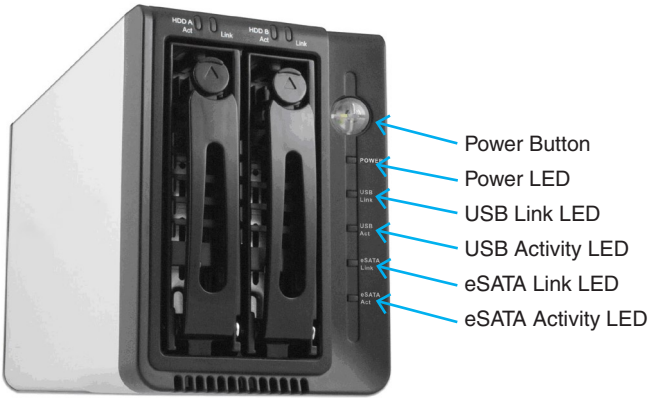
- 1 x S352U2RER enclosure
- 1 x eSATA cable
- 1 x USB A to B cable
- 1 x Screw Kit
- 1 x Power Adapter with power cord
- 1 x Instruction Manual
- 1 x PCI Express eSATA controller card (S352U2RERC only)

System Requirements

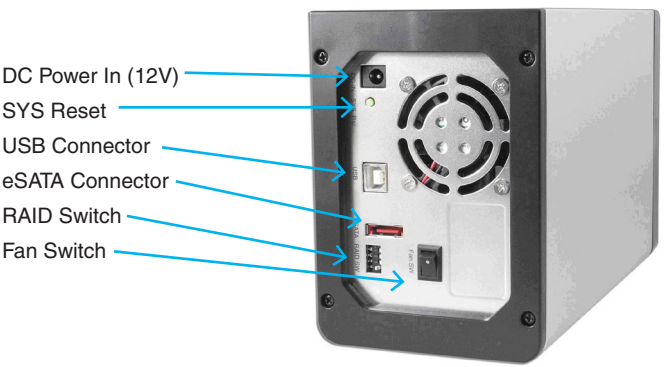
- An available USB 2.0 or eSATA port
- 1 or 2 SATA Hard Drives
- PCI Express enabled computer system (S352U2RERC only)
- Microsoft Windows® 2000/XP/Server 2003/Vista, Mac OS® X, Linux® kernel 2.4.1.0 or later

Installation

Front View



Rear View



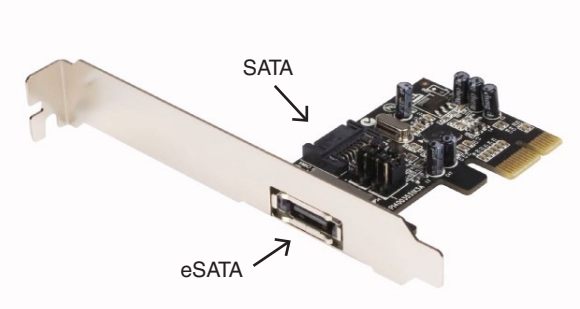
Hardware Installation

1. Remove the drive trays from the enclosure, by pressing the release button, then pushing down on the arms to eject them and slide the trays out.

2. Remove the brace from the trays, then secure the hard drive into the trays with the supplied screws.

3. Slide the trays back into the enclosure until they are fully seated, then close the arms.
4. Set the dip switches on the rear of the enclosure, for the proper mode you want to use.
5. Plug in the power adapter and press the power button on the front.
6. Press the SYS reset button on the unit, to make sure it's configured for the proper mode.
7. Plug in the USB or eSATA cable, and the connect the other end to the computer system.

eSATA Controller Card Installation (S352U2RERC only) - PEXESATA1



JP	Action	Setting
J1-J4	Enable external eSATA port	**Set J1-J4 jumpers to pins 1 and 2**
	Enable internal SATA port	**Set J1-J4 jumpers to pins 2 and 3**

There are two SATA ports available on the PEXESATA1 card - one internal (SATA) and one external (eSATA). Please note that only one of them will work at a time. Using the jumper settings provided above, please designate which port is to be used. By default, Port 2 (internal) is set to active.

1. Turn your computer off and any peripherals connected to the computer (ie. Printers, external hard drives, etc.). Unplug the power cable from the rear of the power supply on the back of the computer.
2. Remove the cover from the computer case.
3. Locate an open PCI Express slot and remove the metal cover plate on the rear of the computer case. Note that this card will work in PCI Express slots of additional lanes (ie. x4, x8 or x16 slots)
4. Insert the card into the open PCI Express slot and screw the bracket to the rear of the case.

5. Place the cover back onto the computer.
6. Insert the power cable into the socket on the power supply.

Driver Installation

Windows 2000/XP/Server 2003

1. When the Found New Hardware wizard appears on the screen, insert the Driver CD into your CD-ROM drive. If you are prompted to connect to Windows Update, please select the “No, not this time” option and click Next.
2. Select the option “Install Drivers Automatically (Recommended)” and then click the Next button.
3. Windows should now start searching for the drivers. Once this has completed, click the Finish button.

Windows Vista

1. When the Found New Hardware window appears on the screen, click on the “Locate and install drivers software (recommended)” option. If prompted to search online, select the “Don’t search online” option.
2. When prompted to insert the disc, insert the Driver CD that came with the card, into your CD-ROM drive and Windows will automatically proceed to search the CD.
3. If a Windows Security dialog window appears, click the “Install this driver software anyway” option to proceed.
4. Once the driver is installed, click the Close button.

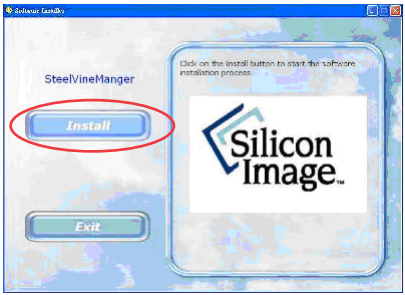
Verifying Installation

From the main desktop, right-click on “My Computer” (“Computer” in Vista), then select Manage. In the new Computer Management window, select Device Manager from the left window panel.

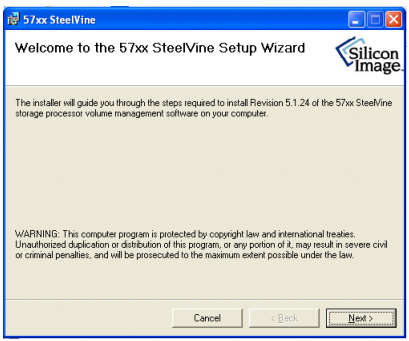
Double-click on the “SCSI and RAID Controllers” or (Storage Controllers, in Vista) option. A Silicon Image card should appear under this category.

SteelVine Manager Installation

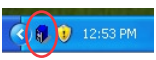
1. Insert the included CD, and AutoPlay will start.



2. Select the Install option and proceed through the installation process.


57xx SteelVine
Welcome to the 57xx SteelVine Setup Wizard
Silicon Image
The installer will guide you through the steps required to install Revision 5.1.24 of the 57xx SteelVine storage processor volume management software on your computer.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel
< Back
Next >

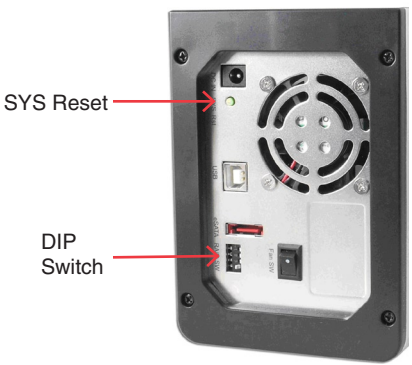
3. Once complete, you should have the tray icon present, from which you can launch the SteelVine Manager utility.



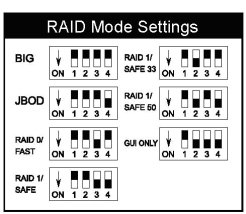
Configuration

Mode Selection

1. Make sure the enclosure is powered on and not connected to a computer system.
2. Set the DIP switches to the appropriate mode:

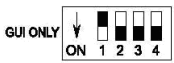


3. Press the SYS Reset button.

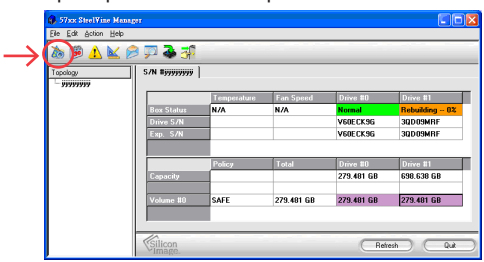


SteelVine Manager Operation

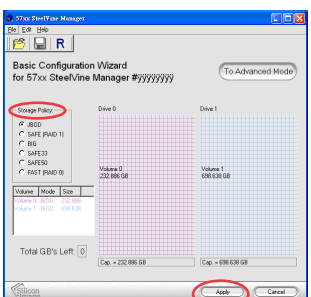
To use the SteelVine Manager to configure the enclosure, the DIP switches on the enclosure must be configured for GUI mode.



1. Install the SteelVine Manager from the included CD, or download the latest version from the StarTech.com website (www.startech.com).
2. Launch the SteelVine Manager utility or click on the icon in the system tray (Windows only).
3. The main window will show you current status of the disks in the enclosure. Click on the “Configure” button to set the RAID mode. You will be prompted to enter the password. The default is ‘admin’.



4. Under the Storage Policy section, set the RAID mode you want, and click the Apply button.

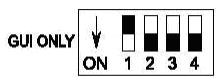


RAID Storage Policies

NOTE: The maximum supported partition size for 32-bit Windows systems is 2 TB. Windows cannot detect multiple drives in any RAID mode if the total size exceeds 2TB. Hard drives in non-RAID mode (JBOD) are supported up to 2TB.

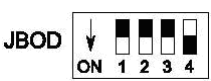
GUI MODE (factory default)

GUI mode allows you to use the SteelVine Manager GUI to set the storage policy and other settings as well as monitor the status of the enclosure (i.e., storage capacity, and RAID mode of the desired hard drive). To select this mode, ensure that the hard disk drives are installed, set DIP switch on the back of the device to the GUI position and turn on the power. In this mode, no virtual volume(s) will be created until the storage policy and volume selections are made through the SteelVine Manager GUI. To change from GUI mode to some other fixed storage policy thereafter, set the DIP switch to the desired position and press the SYS reset button to create the new virtual volume(s).



JBOD MODE

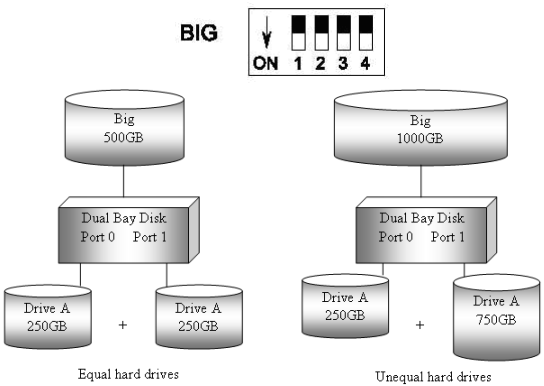
JBOD enables each hard drive to be seen separately, or if only a single hard drive is installed. When using a SATA host controller, JBOD should only be used if the SATA host controller provides Port Multiplier (PM) support. If a host is not PM-aware, only a single drive is visible (drive A). No such limitation exists if using a USB host connection.



BIG MODE

BIG concatenates a series of physical hard drives into a single large volume; Hard drives A and B are combined with a storage capacity that is equal to the sum of the two drives. There is no data redundancy, so if one of the disks fail, the data on that disk will be lost.

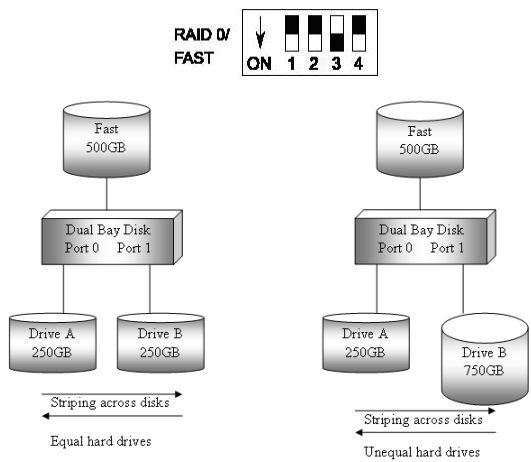
Once the hard drives A and B are installed in the enclosure, set the DIP switch to BIG mode and press the SYS reset button. A single disk drive will now appear, with the total capacity of the two separate hard drives.



RAID 0 (Fast)

RAID0 is a combination of two physical hard drives, where the data is striped (split) between them. It presents the best data speed, as the data is split and written to both disks at the same time, but there is no data redundancy. If either of the disks fail, then all of the data will be lost.

If two equal capacity hard drives are used, the capacity of the hard drives are combined. If two unequal capacity hard drives are used, the capacity is double that of the smaller hard drive.



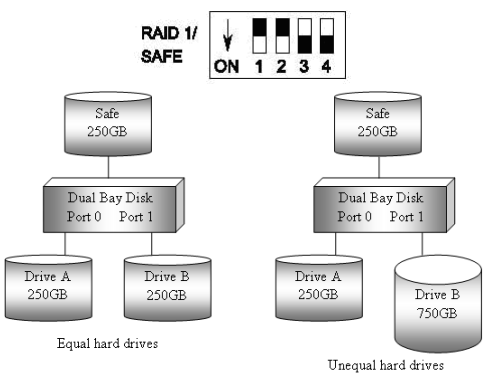
RAID 1 (Safe)

RAID1 allows the enclosure to automatically copy data to both hard drives. It stores all data in duplicate on separate drives to protect against data loss due to drive failure. It provides the highest level of data protection for critical data that you cannot afford to lose if a hard drive fails. The capacity is equal to the smaller of the two hard drives.

If one drive fails, the SAFE volume is still usable, but it is in a vulnerable state because its mirror (duplicate) hard drive is inaccessible. When the offline drive comes back online, the enclosure will begin the rebuild process immediately, to restore data redundancy.

Although the volume remains available during the rebuild process, the volume is susceptible to data loss through damage to the remaining drive until redundancy is restored at the end of the rebuild/verification process. Host access takes precedence over the rebuild process, so if you continue to use the SAFE volume during the rebuild, the rebuild process will take longer to complete, and the data transfer performance will also be affected.

NOTE: Under “Safe Mode”, if Drive B would start to Rebuild, the Link LED of Drive B would start to flash.



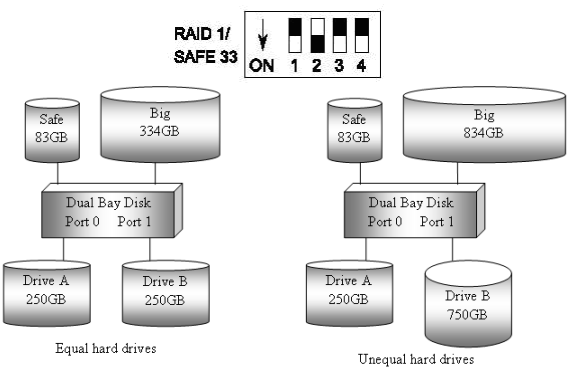
RAID / SAFE33

SAFE33 creates two virtual volumes; one SAFE volume and one BIG volume. This should be used when you need one volume for critical data and another for non-critical. It reduces the cost of additional hard drives in operations where non-critical data could be lost without severe consequences. If one drive fails the SAFE volume is retrievable, but the BIG volume is not. When you replace the failed drive, the SAFE volume is automatically rebuilt to the replacement drive.

When using a SATA host connection, you must have a PM (Port Multiplier) aware host controller when using SAFE33. If your SATA host adaptor is not PM aware, then ONLY the SAFE volume will be detected and the BIG volume will not be accessible. No such limitation exists when using a USB host connection.

The size of the SAFE volume will be one-third of the size of one hard drive (if they are equal) or one-third of the size of the smaller (if they are not equal.) The size of the BIG volume will be the combination of all remaining capacities.

NOTE: Under “Safe Mode”, if Drive B would start to Rebuild, the Link LED of Drive B would start to flash.



RAID / SAFE50

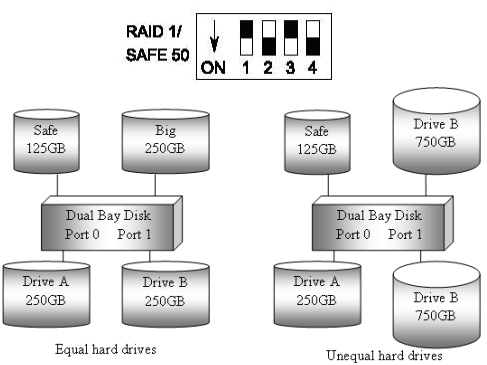
SAFE50 creates two virtual volumes; one SAFE volume and one BIG volume. This should be used when you need one volume for critical data and another for non-critical. It reduces the cost of additional hard drives in operations where non-critical data could be lost without severe consequences. If one drive fails the SAFE volume is retrievable, but the BIG volume is not. When you replace the failed drive, the SAFE volume is automatically rebuilt to the replacement drive.

When using a SATA host connection, you must have a PM (Port Multiplier) aware host adapter when using SAFE50. If your SATA host adaptor is not PM aware, then ONLY the SAFE volume will be detected and the BIG volume will not be accessible. No such limitation exists when using a USB host connection.

The size of the SAFE volume will be one-half of the size of one hard drive (if they are equal) or one-half of the size of the smaller (if they are not equal).

The size of the BIG volume will be the combination of all remaining capacities.

NOTE: Under “Safe Mode”, if Drive B would start to Rebuild, the Link LED of Drive B would start to flash.



Specifications

Bus Interface	SATA revision 2.0 USB 2.0
Chipset	Silicon Image Sil5744
External Connectors	1 x eSATA 7-pin 1 x USB type B
LEDs	Power, USB Link, USB Act., eSATA Link, eSATA Act. HDD A Act., HDD A Link HDD B Act., HDD B Link
Cooling Fan	1 x 50mm Ball Bearing
Maximum Data Transfer Rate	eSATA: 3 Gbps USB: 480 Mbps
Supported RAID Modes	JBOD, BIG, RAID0, RAID1, SAFE33, SAFE50
Supported Operating Systems	Windows 2000/XP/Server 2003/ Vista, Mac OS X, Linux kernel 2.4.1.0 or later

Technical Support

StarTech.com's lifetime technical support is an integral part of our commit-ment to provide industry-leading solutions. If you ever need help with your product, visit www.startech.com/support and access our comprehensive selection of online tools, documentation, and downloads.

Warranty Information

This product is backed by a one year warranty.

In addition, StarTech.com warrants its products against defects in materials and workmanship for the periods noted, following the initial date of purchase. During this period, the products may be returned for repair, or replacement with equivalent products at our discretion. The warranty covers parts and labor costs only. StarTech.com does not warrant its products from defects or damages arising from misuse, abuse, alteration, or normal wear and tear.

Limitation of Liability

In no event shall the liability of StarTech.com Ltd. and StarTech.com USA LLP (or their officers, directors, employees or agents) for any damages (whether direct or indirect, special, punitive, incidental, consequential, or otherwise), loss of profits, loss of business, or any pecuniary loss, arising out of or related to the use of the product exceed the actual price paid for the product. Some states do not allow the exclusion or limitation of incidental or consequential damages. If such laws apply, the limitations or exclusions contained in this statement may not apply to you.

StarTech.com has been making “hard-to-find easy” since 1985, providing high quality solutions to a diverse IT and A/V customer base that spans many channels, including government, education and industrial facilities to name just a few. We offer an unmatched selection of computer parts, cables, A/V products, KVM and Server Management solutions, serving a worldwide market through our locations in the United States, Canada, the United Kingdom and Taiwan.

Visit **www.startech.com** today for complete information about all our products and to access exclusive interactive tools such as the Cable Finder, Parts Finder and the KVM Reference Guide.